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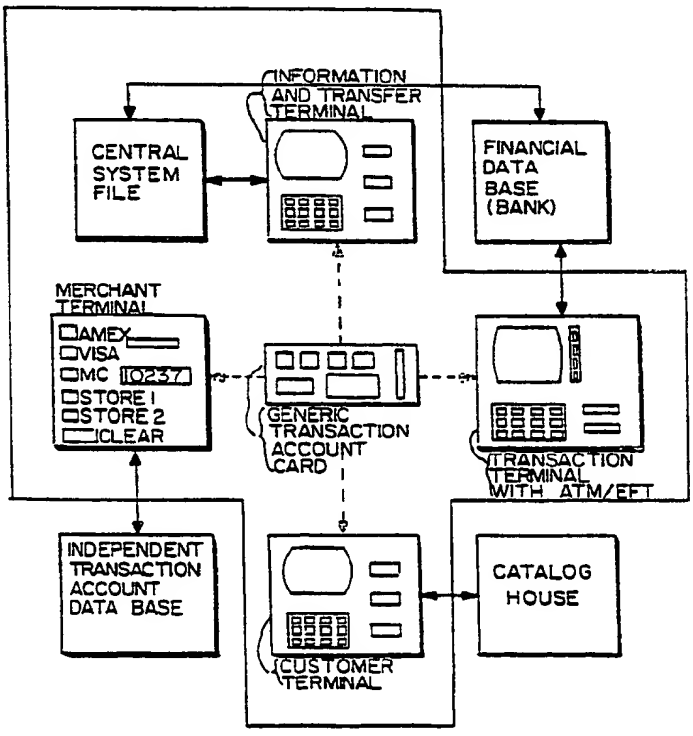
(54) Title: GENERIC TRANSACTION ACCOUNT SYSTEM

(57) Abstract

A generic transaction account system (10) comprising a plurality of programmable cards (12); a central data file (14) for storing customer account information for each card (12); and a plurality of system terminals (16, 18, 20) is being disclosed. Each card (12) comprises on-board processor (40) for storing data related to a plurality of transaction accounts, and for transferring data to the system terminals (16, 18, 20). Each terminal (16, 18, 20) comprises card reader (56, 58) for reading data from the card, control keypad (52) and video display (54) for adding, deleting and displaying the information stored in the cards. The terminals (16, 18, 20) also operate to transfer data between the cards (12) and the central data file (14), and to update the customer account information stored at central data file (14). The customers of the transaction account system (10) may substitute a plurality of cards (12) by a single card (12) to conduct transactions of independent accounts. The system terminals (16, 18, 20) may be adapted for use by system operators, customers and independent merchants, respectively.



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GENERIC TRANSACTION ACCOUNT SYSTEM

BACKGROUND OF THE INVENTION

1. Field of the Invention

The invention relates generally to the field of generic credit cards, and in particular, to a generic transaction account system utilizing programmable generic transaction account cards.

2. Prior Art

Credit cards, debit cards, bank cards and the like have become an integral part of retail commerce. Typically, credit cards of all types are issued by independent financial systems, wherein the financial systems assume responsibility for paying merchants and for collecting funds from consumers to cover charged purchases. The independent financial systems profit from annual fees to consumers, commissions paid by merchants and interest charges to consumers for balances paid over time. Among the most commonly used of such cards are AMERICAN EXPRESS, VISA and MASTERCARD. Cards similar to credit cards are also issued by financial institutions such as banks, whereby bank customers can undertake financial transactions at automatic teller machines and machines which provide for electronic fund transfer, which are generally more numerous than bank branches and which operate twenty-four hours a day. Credit cards are also issued by many other independent sources, such as retail store chains.

Statistics indicate that the average consumer carries seven such credit cards, suggesting that the system is very well entrenched. For purposes of describing this invention, such credit card services and the like will be referred to as transaction accounts. This is a broad term intended to encompass, without limitation, credit accounts, debit accounts, automatic teller machine accounts, electronic fund transfer accounts and promotional incentive accounts.

The system is very much preferred by most consumers, for several important reasons. Firstly, consumers are relieved from the need and risk to always carry large amounts of cash. Secondly, consumers have an easy

opportunity to spend more money than might be otherwise on hand at the moment of purchase, knowing that the credit limit of the particular credit card system is equivalent to a line of credit which can be tapped as needed, and can be satisfied by installment payments over time. Thirdly, the credit slips and monthly bills issued by such independent transaction account systems provide a record of purchases and payments.

Notwithstanding these advantages, there are several disadvantages. The biggest disadvantage in terms of everyday of convenience is the need for each consumer to carry so many individual credit cards. Even where billfolds and the like are intended to hold many such credit cards, the end result is a bulky item which is often larger than many pockets. A second disadvantage is the need to correlate credit slips and individual monthly bills in order to prepare a sufficiently coherent summary of all transactions to enable a meaningful review or self-monitoring of purchases, including both the nature of purchases and the costs for such purchases. Thirdly, there is the difficultly of remembering not only the special rules and credit limitations for each particular card, but in remembering just what has been charged on each card and how much credit remains on each card.

Certain aspects of these problems have been addressed in a limited fashion, but not with any thought to a comprehensive generic transaction account system which would utilize generic transaction account cards in a way which would not only alleviate the problems noted above, but would provide other advantages as well.

Universal or generic credit cards have been described both in the patent literature and technical literature. Universal or multiple company credit cards are disclosed in U.S. Patents Nos. 3,376,661; 3,512,130; 4,443,027; and, 4,593,936. In the technical literature, such cards are referred to as "SMART" cards. Smart card is a description generally accorded to a wallet-sized plastic card having microprocessor and memory chips embedded therein. The

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development of such technology is described at some length in an article entitled "SMART CARDS" which appeared in High Technology, July, 1986 pages 34-43 and an article entitled "SMART CARD" which appeared in Electronics December 18, 1986, pages 55-58. A brochure containing a considerable amount of technical information has been distributed by Thomson Semiconductuers and entitled SMART CARDS FROM THOMSON. It appears this brochure was distributed sometime before the end of 1987, but no particular date is known. Inasmuch as this invention is not directed to a "SMART" generic transaction account card in and of itself, but rather to a generic transaction account system, the technological aspects of such cards are not discussed in detail in the specification. Rather, the discussions of the patent and literature references noted above are incorporated herein by reference.

The use of transaction account cards of any type must be protected by security measures to prevent unauthorized use of cards which are lost, stolen or counterfeit. Such security measures are also disclosed in the patent and literature references identified above, as well as in the following United States Patents: 3,732,640; 3,533,176; and, 3,434,414.

Various parts of this invention may be constructed integrally with, that is, in combination with existing terminals used for processing credit card transactions. These involve means for communicating by telephone, for example, with a central clearing house for the particular independent transaction account system, to assure that the card has not been reported lost or stolen and to insure that charges will not exceed credit limits. Such apparatus are disclosed in U.S. Patent Nos. 3,564,210 and 3,982,103. The disclosures of the other noted patent references are incorporated herein as well.

The generic transaction account system according to this invention solves the first problem noted above by enabling customers of the transaction account system to benefit by convenient substitution of the generic

transaction account card for any number of independent transaction account cards which the customer must otherwise carry. This invention also provides a comprehensive summary of account transactions undertaken in all of the independent transaction accounts, and thereby enables self-monitoring of spending practices without the need to correlate credit slips and bills from a plurality of different independent transaction account systems. The transaction account system according to this invention also enables customers to "read" their account status from the card, by means of customer operable terminals associated with this system, solving the third problem. In addition, the transaction account system according to this invention provides an opportunity for system operators to benefit by monitoring and influencing consumer preference patterns of customers and enables issuers of independent transaction account cards to benefit because each customer effectively carries all such independent transaction account cards at all times, encouraging use thereof. Finally, the system itself is fully operable while at all times being completely "transparent" to all transactions utilizing the independent transaction accounts.

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SUMMARY OF THE INVENTION

It is an object of this invention to provide a generic transaction account system.

It is another object of this invention to provide a generic transaction account system operable with a plurality of transaction accounts, in the nature of credit, debit, automatic teller machine, electronic fund transfer, promotional incentive and other such accounts.

It is still another object of this invention to provide a generic transaction account system which is operable to provide interim and cumulative ledgers of transactions, in the nature of credits, debits, deposits, withdrawals, transfers, promotional incentive use and other such transactions.

It is yet another object of this invention to provide a generic transaction account system which can be implemented with and easily integrated with existing technological apparatus used for processing all of the various transaction accounts identified above.

It is yet another object of this invention to provide a generic transaction account system which benefits customers, system operators and operators of independent transaction account systems.

It is yet another object of this invention to benefit customers of the transaction account system by convenient substitution of the generic transaction account card for any number of independent transaction account cards which the customer must otherwise carry and by access to a comprehensive summary of account transaction for self-monitoring spending practices.

It is yet another object of this invention to benefit system operators by monitoring and influencing consumer preference patterns of customers.

It is yet another object of this invention to provide a generic transaction account system which benefits operators of independent transaction account cards because each customer effectively carries all such independent

transaction account cards at all times, encouraging use thereof.

It is yet another object of this invention to provide a generic transaction account system which provides all of the advantages as stated above, but which system nevertheless remains transparent at all times to all transactions utilizing such independent transaction accounts.

These and other objects of this invention are achieved by a generic transaction account system, comprising in the presently preferred embodiments: a plurality of programmable generic transaction account cards adapted for use by customers of the transaction account system, each card having means for storing an account log of identity/operating codes for a plurality of transaction accounts and at least one interim ledger of transactions, and means enabling information to be transferred between the card and a system terminal; a central data file for storing a customer account log and a cumulative transaction ledger for each programmed card; and, a plurality of system terminals, each of the system terminals having means for reading the card and automatically updating the interim ledger as necessary and a user interface for controlling the terminal and for displaying information stored on the card, and at least one of the system terminals having means for transferring data between the generic cards and the central data file.

The transaction accounts are in the nature of credit, debit, automatic teller machine(ATM), electronic fund transfer(EFT), promotional incentive and other such accounts. The transactions stored in the at least one interim and cumulative transaction ledgers are in the nature of credits, debits, deposits, withdrawals, transfers, promotional incentive use and other such transactions. Customers of the generic transaction account system may, by convenient substitution of the generic transaction account card for a plurality of individual account cards, utilize a single card to conduct transactions in any number of transaction accounts and, at the same time, automatically

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have maintained for them a comprehensive summary of account transactions for self-monitoring spending practices.

In one of the presently preferred embodiments, the generic transaction account system further comprises a plurality of first system terminals adapted for use by system operators, a plurality of second system terminals adapted for use by customers and a plurality of third system terminals adapted for use by independent merchants. Each of the first system terminals preferably has means for selectively adding and deleting transaction account identity/operating codes to and from the cards, means for automatically reading the the card and updating the central data file as necessary, means for reading data from independently issued transaction account cards and a user interface for controlling the terminal and for displaying information stored on the card. Each of the second terminals preferably has means for selectively adding and deleting transaction account identity codes to and from the cards, means for reading data from independently issued transaction account cards, means for reading the cards and a user interface for controlling the terminal and for displaying information stored on the card. Each of the third system terminals preferably has means for reading identity codes from the cards, means for automatically updating the at least one interim transaction ledger responsive to a transaction occurrence at the terminal and a user interface for controlling the terminal. Moreover, at least some of the system terminals may be integrated with an ATM/EFT terminal having means for transferring information between the ATM/EFT terminal and an independent financial data base.

At least some of the first system terminals may be integrated with a sales register having means for communicating with at least one financial data base, whereby payment for purchases may be effected directly by use of the generic transaction account card. At least some of the second system terminals may be integrated with a sales terminal for catalog houses and the like, having means for

communicating with at least one catalog house and the like and means for communicating with at least one financial data base, whereby purchases and payments for the purchases may be effected directly by use of the generic transaction account card and whereby promotional incentives may be "cashed in" for merchandise and the like. At least some of the third system terminals may be integrated with a sales register having means for communicating with at least one financial data base, whereby payment for purchases may be effected directly by use of the generic transaction account card. Alternatively, at least some of the third system terminals may be integrated with a credit/debit card terminal having means for reading data from independently issued transaction accounts and means for automatically communicating with a credit clearance authorization center.

In a fully comprehensive embodiment, the system may further comprise means for transferring information between the central data file of the system and at least one of the integrated ATM/EFT terminals, and means for transferring information between the central data file of the system and the independent financial data base associated with the integrated ATM/EFT terminal.

Other objects and advantages of the invention will become apparent to those skilled in the art from the following detailed description of the preferred embodiments of the invention, and the accompanying drawings.

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BRIEF DESCRIPTION OF THE DRAWINGS

Presently preferred embodiments of the invention are shown in the drawings, it being understood that the invention is not limited to the precise arrangements and instrumentaliies shown.

The Figure is a block diagram of a generic transaction account system according to this invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

A generic transaction account system according to this invention is shown in block diagram form, and is within the block designated by reference numeral 10. The generic transaction account system 10 comprises a plurality of programmable generic transaction account cards 12 adapted for use by customers of the transaction account system, a central system data file 14 and a plurality of system terminals.

A first kind of system terminal 16 is an information and transfer terminal adapted for use by system operators. A second kind of terminal 18 is adapted for use by customers of the generic transaction account system. A third kind of system terminal 20 is adapted for use by independent merchants, who wish to enable their customers the opportunity to use a generic transaction account card in addition to an independent transaction account card. A fourth kind of system terminal 22 is adapted for use in combination with an automatic teller machine(ATM) and/or an electronic fund transfer(EFT) machine. It will be appreciated that although only one of each kind of terminal is illustrated in the Figure, a generic transaction account system 10 according to this invention will require large numbers of each of the system terminals.

Information and transfer terminal 16 has means 36 for transferring data between the terminal and the central system data file 14. Every ATM/EFT terminal 22, even those which do not form part of system 10, have means 26 for communicating with a financial data base 24, which is usually the financial data base of the bank which sponsors the ATM/EFT terminal. Similarly, credit authorization terminals used by independent merchants, whether or not embodied as a system terminal according to this invention, are provided with means 28 for communicating with an independent transaction account data base 78 for each of the independent transaction account systems to which the merchant is a subscriber. Means 64 may also be provided for communicating between customer terminals 18 and a catalog

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house or the like 80. Finally, and depending upon the cooperation or identity of sponsorship between the generic transaction account system and the financial institution sponsoring the ATM/EFT terminals 22, means 38 may be provided for transferring data between the central system data file 14 and the financial data base 24. Similarly, depending upon cooperation and sponsorship, means (not shown) may also be provided for transferring data between the central system data file 14 and one or more independent transaction account data bases 78.

The central system data file 14 is managed by the operator of the generic transaction account system 10. The central system data file 14 preferably contains at least two data stores 32 and 34. Data store 32 is a customer account log, which stores identity/operating codes for each of the independent transaction accounts which a customer transfers onto a generic transaction account card. The transaction accounts are in the nature of credit, debit, automatic teller(ATM), electronic fund transfer(EFT), promotional incentive and other such accounts. Data store 34 is a cumulative transaction ledger for each transaction undertaken with a generic transaction account card. The transactions stored are in the nature of credits, debits, deposits, withdrawals, transfers, promotional incentive use and other such transactions. The information and transfer terminals 16 are preferably used for loading and reading from central system data file 14, although system operators might choose to embody the central system data file in a computer, which is itself provided with means for controlling data transfer to and from the central system file 14.

Each generic transaction account card 12 represents, to some extent, a portable version of each customer's part of the central system data file. Each generic transaction account card 12 comprises an on-board processor 40. The processor 40 is used to transfer transaction data to and from an interim transaction ledger 42 and to and from a system interface connector 46. The processor 40 also

controls data transfer to and from a plurality of account logs 44, for storing a plurality of identity/operating codes for which the generic transaction account card is programmed. The use of separate blocks for data stores 42 and 44 is not to be construed as a limitation upon the manner in which the card memory is organized. The electronic aspects of the card are at least partially embedded therein, enabling one or both of the large surfaces of the card to bear visible indicia to assist in identification and validation of the card. These indicia might include photographs, signature lines and the like. Visible inditia will also be provided which identify the generic transaction account system operators. Means for encrypting data on credit cards in general, and with regard to identity/operating codes in particular, are already known in the art, and are not described herein. It is preferred that generic transaction account cards according to this invention will have such encryption means operable as part of the on-board processor 40, to prevent improper use of the cards. It will also be appreciated by those skilled in the art that, although the generic transaction account card 12 has been described in terms of electronic semi-conductor components, it is also a part of this invention for such cards to be programmed by optical means, at such time as technological and engineering advances make such an application practical. Optical means is particularly useful in simultaneously providing visible indicia of a particular independent transaction account, as each such account is programmed or loaded onto the generic transaction account card.

The information and transfer terminals 16 are intended for use by system operators, and each is preferably provided with a control keypad 52 and a video display 54. Card readers 56 and 58 are provided for interfacing with generic transaction account cards 12 and conventional independent transaction account cards, respectively. Printer 60 provides hard copy of data which is transferred to and from each card, to and from the central system data file and that

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data which is resident on each card. In terms of function, it is preferred that each of the information and transfer terminals 16 has means for selectively adding and deleting transaction account identity/operating codes to and from the cards, means for automatically reading the card and updating the central data file as necessary, means for reading data from independently issued transaction account cards and a user interphase for controlling the terminal and for displaying information stored on the card. It is also preferred that at least some of the first system terminals are integrated with a sales register having means for communicating with at least one financial data base, whereby payment for purchases may effected directly by use of the generic transaction account card.

Each of the customer terminals 18 also includes a keypad 52, video display 54, card readers 56 and 58, and printer 60. Accordingly, each of the second system terminals 18 preferably has means for selectively adding and deleting transaction account identity codes to and from the cards, means for reading data from independently issued transaction account cards, means for reading the cards and a user interphase for controlling the terminal and for displaying information stored the card. It is preferred that at least some of the customer terminals 18 may be integrated with a sales terminal for catalog houses and the like, having means for communicating with at least one catalog house and the like and means for communicating with at least one financial data base, whereby purchases and payments for the purchases may be effected directly by use of the generic transaction account card and whereby promotional incentives may be cashed in for merchandise and the like.

Each of the merchant terminals 20 is provided with a card reader 56 and a printer 60, as well as, for example, a plurality of buttons 66 for selecting one of the independent transaction accounts for use in purchasing merchandise from the merchant. Each button may be provided with a light 68, such that all available independent accounts will be

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identified by lighted buttons after the generic transaction account card has been inserted into card reader 56. The selection of a particular independent transaction account can be effected as easily as pressing one of the lighted buttons. Thereafter, the terminal would function as a conventional credit authorization terminal, establishing communication with an independent transaction account data base 78 and flashing an approval or denial code number in display 72. A credit slip can be prepared by printer 60. Inasmuch as information need not be transferred between generic transaction account card and a conventional credit card, card reader 56 is preferably adapted to read either bind, and there is no need to provide two card readers. A "CLEAR" button 70 may be provided for clearing incorrect account choices or for choosing a different account if credit is refused in a first account. Accordingly, each of the third system terminals 20 preferably has means for reading identity codes from the generic cards, means for automatically updating the at least one interim transaction ledger responsive to a transaction occurrence at the terminal and a user interphase for controlling the terminal. It is also preferred that at least some of the merchant terminals 20 be integrated with a sales register having means for communicating with at least one financial data base, whereby payment for purchases may be effected directly by use of the generic transaction account card.

The use and interaction of the various components of the system including the generic transaction account cards, the central system data file and the various system terminals, can be appreciated from a description of a system as would likely be embodied in the market place. A consumer is likely to secure a generic transaction account card from a system operated by a chain store retailer or the like. The generic card would be a product in and of itself, as opposed to the system operator's medium for financial or other communications between consumer, retailer and card issuer, as is the case with, for example, AMERICAN EXPRESS, VISA AND MASTERCARD. The issuing company would market the

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card and related devices to businesses for redistribution to consumers, consumers benefitting from the consolidation of all such cards and/or services into one generic card. The generic card would have a product name, although the issuer, retailer or other party could very well be identified on the card and receive certain benefits as the issuer or remarketer of the card.

As a more specific example, generic transaction account cards might be issued to a consumer by a supermarket chain. The card might also be a VISA or MASTERCARD credit card, and might very well contain the supermarket's check validation service, a "frequent shopper" program that rewards the consumer for the amount of purchase. The card may also include means for enabling use of automatic teller machine and electronic fund transfer terminals. Each of these functions would be functionally partitioned within the card and would perform the desired function when placed in an appropriate card reader. Integration of system terminals with existing terminals would likely require replacement or modification of the card reader, so as to enable operation with conventional credit cards and the generic transaction account card.

When a consumer decides to become a generic transaction account card holder, the consumer may fill out an application form or enter the appropriate information into a system terminal located in the store or other location. The application would preferably request certain basic information required for credit card, and through the use of incentives, points in a frequent shopper program as an example, would then grant bonus points for additional information regarding consumer preferences and practices. The basic credit information would be forwarded to an underwriting bank, but the additional consumer information would be retained by the retail chain.

The card would be processed by the underwriting bank as would any other credit card application, and if requested by the customer and supported by the bank, an ATM and/or EFT function may be added. The card may then be returned to the

issuing store with the consumer identified on the card and the various electronic services capabilities approved by the bank incorporated therein. A system operator may then insert the card into an information and transfer terminal to initialize the card with the store's coded information, and to add those services selected by the consumer. Those additional services might include check validation, frequent shopper program, food stamps, and any other promotional program currently being provided by the store or participating manufacturer. These services may be incorporated in the card by the bank at the time of issue under an agreement between the bank and the retail store. During the card initialization process at the store, an electronic file would be opened for the consumer containing all the basic consumer preference information contained on the card. If the consumer provided the store with additional information, this information could be used to classify the consumer as a certain category of purchaser. The classification of the consumer would be added to the card and, if appropriate, bonus points added to the card at that time. The central system data file would be updated simultaneously. The customized card, preferably containing a certain amount of "pre-loaded" promotions would then be presented to the consumer. The consumer's file would reside at the store that issued the card, and would be updated each time the card was used at the store. The interim transaction ledger of the generic transaction account card would be made sufficiently large to handle the number of transactions which could be expected to take place between a consumer's visits to a system terminal which acts as information and transfer terminal 16.

The generic transaction account card is easy to use. If the card is entered into an interactive terminal which is integrated with a sale register, purchases can be charged directly to the generic card. If the card is entered at a remote terminal, the consumer may determine the status of his bank account, incentive program or any other services integral in the card; may convert incentive "points" into

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merchandise through catalog purchases; may select of number of coupons or other incentives and receive a printed shopping list; may add or subtract independent transaction service accounts to and from the card; and may perform conventional banking services at ATM/EFT terminals. If the information and transfer terminal is positioned adjacent to a sales register, but not necessarily integrated therewith, the consumer may still use the card to pay for the transaction by credit access or electronic funds transfer; may select coupons selected by video display that are related to the items purchased during that transaction, which coupons may be stored electronically on the card for use at a later date; may accumulate incentive points based upon items purchased; and, may perform other financial services required at the point of purchase. Consumers might also print a shopping list of coupons stored on the card, so as to be certain that all available coupons are utilized.

Whenever a consumer shops at a store other than one operated by the system operator, the card functions as a portable data base. The consumer may insert the card in the terminal in the second store, and perform all of the same functions noted above. At the end of the transaction, the interim transaction ledger would be updated. Whenever the consumer returned next to a system store, the card would automatically be read to update the cumulative transaction ledger 34. Even should a consumer lose the card, the issuing store would still have a record of all transactions, except of course for those transacted after the last transfer of information from the card to the central system data file.

Customer interactive terminals are a preferred embodiment for the system terminals of this invention. System terminals can be integrated with existing kinds of terminals without undue difficulty. The operation of consumer interactive terminals is described in some detail in U.S. Patent No. 4,676,343, the teachings of which are incorporated herein by reference.

The invention may be embodied in other specific forms without departing from spirit or essential attributes thereof. Accordingly, reference should be made to the appended claims, rather than to the foregoing specification, as indicating the scope of the invention.

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WHAT IS CLAIMED IS:

1. A generic transaction account system, comprising:

a plurality of programmable generic transaction account cards adapted for use by customers of the transaction account system, each card having means for storing a log of identity/operating codes for a plurality of transaction accounts, in the nature of credit, debit, automatic teller machine (ATM), electronic fund transfer (EFT), promotional incentive and other such accounts and at least one interim ledger of transactions, in the nature of credits, debits, deposits, withdrawals, transfers, promotional incentive use and other such transactions and means enabling information to be transferred between the card and a system terminal;

a central data file for storing a customer account log and a cumulative transaction ledger for each programmed card;

a plurality of first system terminals adapted for use by system operators, each of the first system terminals having means for selectively adding and deleting transaction account identity/operating codes to and from the cards, means for automatically reading the the card and updating the central data file as necessary, means for reading data from independently issued transaction account cards and a user interface for controlling the terminal and for displaying information stored on the card;

a plurality of second system terminals adapted for use by customers, each of the second system terminals having means for selectively adding and deleting transaction account identity codes to and from the cards, means for reading data from independently issued transaction account cards, means for reading the cards and a user interface for controlling the terminal and for displaying information stored on the card; and,

a plurality of third system terminals adapted for use by independent merchants, each of the third system terminals having means for reading identity codes from the cards, means for automatically updating the at least one interim transaction ledger responsive to a transaction occurrence at

the terminal and a user interface for controlling the terminal,

whereby customers of the transaction account system may benefit by convenient substitution of the generic transaction account card for any number of independent transaction account cards which the customer must otherwise carry and by access to a comprehensive summary of account transactions for self-monitoring spending practices, whereby system operators may benefit by monitoring and influencing consumer preference patterns of customers and whereby issuers of independent transaction account cards may benefit because each customer effectively carries all such independent transaction account cards at all times, encouraging use thereof, the system nevertheless being transparent at all times to all transactions utilizing such independent transaction accounts.

2. The system of claim 1, further comprising a plurality of fourth system terminals, each in combination with an ATM/EFT terminal having means for transferring information between the ATM/EFT terminal and an independent financial data base.

3. The system of claim 2, further comprising means for transferring information between the central data file of the system and at least one of the fourth terminals.

4. The system of claim 2, further comprising means for transferring information between the central data file of the system and the independent financial data base.

5. The system of claim 1, wherein each of the third system terminals comprises means for reading data from independently issued transaction account cards.

6. The system of claim 1, further comprising at least some of the third system terminals in combination with a credit/debit card terminal having means for reading data

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from independently issued transaction accounts and means for automatically communicating with a credit clearance authorization center.

7. The system of claim 1, further comprising at least some of the first system terminals in combination with a sales register having means for communicating with at least one financial data base, whereby payment for purchases may be effected directly by use of the generic transaction account card.

8. The system of claim 1, further comprising at least some of the second system terminals in combination with a sales terminal for catalog houses and the like, having means for communicating with at least one catalog house and the like and means for communicating with at least one financial data base, whereby purchases and payments for the purchases may be effected directly by use of the generic transaction account card and whereby promotional incentives may be "cashed in" for merchandise and the like.

9. The system of claim 1, further comprising at least some of the third system terminals in combination with a sales register having means for communicating with at least one financial data base, whereby payment for purchases may be effected directly by use of the generic transaction account card.

10. A generic transaction account system, comprising:

a plurality of programmable generic transaction account cards adapted for use by customers of the transaction account system, each card having means for storing an account log of identity/operating codes for a plurality of transaction accounts and at least one interim ledger of transactions, and means enabling information to be transferred between the card and a system terminal;

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a central data file for storing a customer account log and cumulative transaction ledger for each programmed card; and,

a plurality of first system terminals adapted for use by system operators, each of the first system terminals having means for selectively adding and deleting transaction account identity/operating codes to and from the cards, means for automatically reading the the card and updating the central data file as necessary, means for reading data from independently issued transaction account cards and a user interface for controlling the terminal and for displaying information stored on the card,

whereby customers of the transaction account system may, by convenient substitution of the generic transaction account card for a plurality of individual account cards, utilize a single card to conduct transactions in any number of independent transaction accounts, including but not limited to credit, debit, automatic teller machine (ATM), electronic fund transfer (EFT), promotional incentive and other such accounts and, at the same time, automatically have maintained a comprehensive summary of account transactions for self-monitoring spending practices, the system nevertheless being transparent at all times to all transactions utilizing such independent transaction accounts.

11. The system of claim 10, further comprising a plurality of second system terminals adapted for use by customers, each of the second system terminals having means for selectively adding and deleting transaction account identity codes to and from the cards, means for reading data from independently issued transaction account cards, means for reading the cards and a user interface for controlling the terminal and for displaying information stored on the card.

12. The system of claim 11, further comprising a plurality of third system terminals adapted for use by

independent merchants, each of the third system terminals having means for reading identity/operating codes from the cards, means for automatically updating the at least one interim transaction ledger responsive to a transaction occurrence at the terminal and a user interface for controlling the terminal.

13. The system of claim 13, further comprising a plurality of fourth system terminals, each in combination with an ATM/EFT terminal having means for transferring information between the ATM/EFT terminal and an independent financial data base.

14. The system of claim 10, further comprising at least some of the first system terminals in combination with a sales register having means for communicating with at least one financial data base, whereby payment for purchases may be effected directly by use of the generic transaction account card.

15. The system of claim 11, further comprising at least some of the second system terminals in combination with a sales terminal for catalog houses and the like, having means for communicating with at least one catalog house and the like and means for communicating with at least one financial data base, whereby purchases and payments for the purchases may be effected directly by use of the generic transaction account card.

16. The system of claim 12, further comprising at least some of the third system terminals in combination with a sales register having means for communicating with at least one financial data base, whereby payment for purchases may be effected directly by use of the generic transaction account card.

17. The system of claim 16, further comprising at least some of the third system terminals in combination with

a credit/debit card terminal having means for reading data from independently issued transaction accounts and means for automatically communicating with a credit clearance authorization center.

18. A generic transaction account system, comprising:

a plurality of programmable generic transaction account cards adapted for use by customers of the transaction account system, each card having means for storing an account log of identity/operating codes for a plurality of transaction accounts and at least one interim ledger of transactions, and means enabling information to be transferred between the card and a system terminal;

a central data file for storing a customer account log and cumulative transaction ledger for each programmed card; and,

a plurality of system terminals, each of the system terminals having means for reading the card and automatically updating the interim ledger as necessary and a user interface for controlling the terminal and for displaying information stored on the card, and at least one of the system terminals having means for transferring data between the generic cards and the central data file,

whereby customers of the transaction account system may, by convenient substitution of the generic transaction account card for a plurality of individual account cards, utilize a single card to conduct transactions in any number of independent transaction accounts, including but not limited to credit, debit, automatic teller machine (ATM), electronic fund transfer (EFT), promotional incentive and other such accounts and, at the same time, automatically have maintained a comprehensive summary of account transactions for self-monitoring spending practices, the system nevertheless being transparent at all times to all transactions utilizing such independent transaction accounts.

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19. The system of claim 18, wherein at least some of the system terminals further comprise:

means for reading data from independently issued transaction account cards; and,

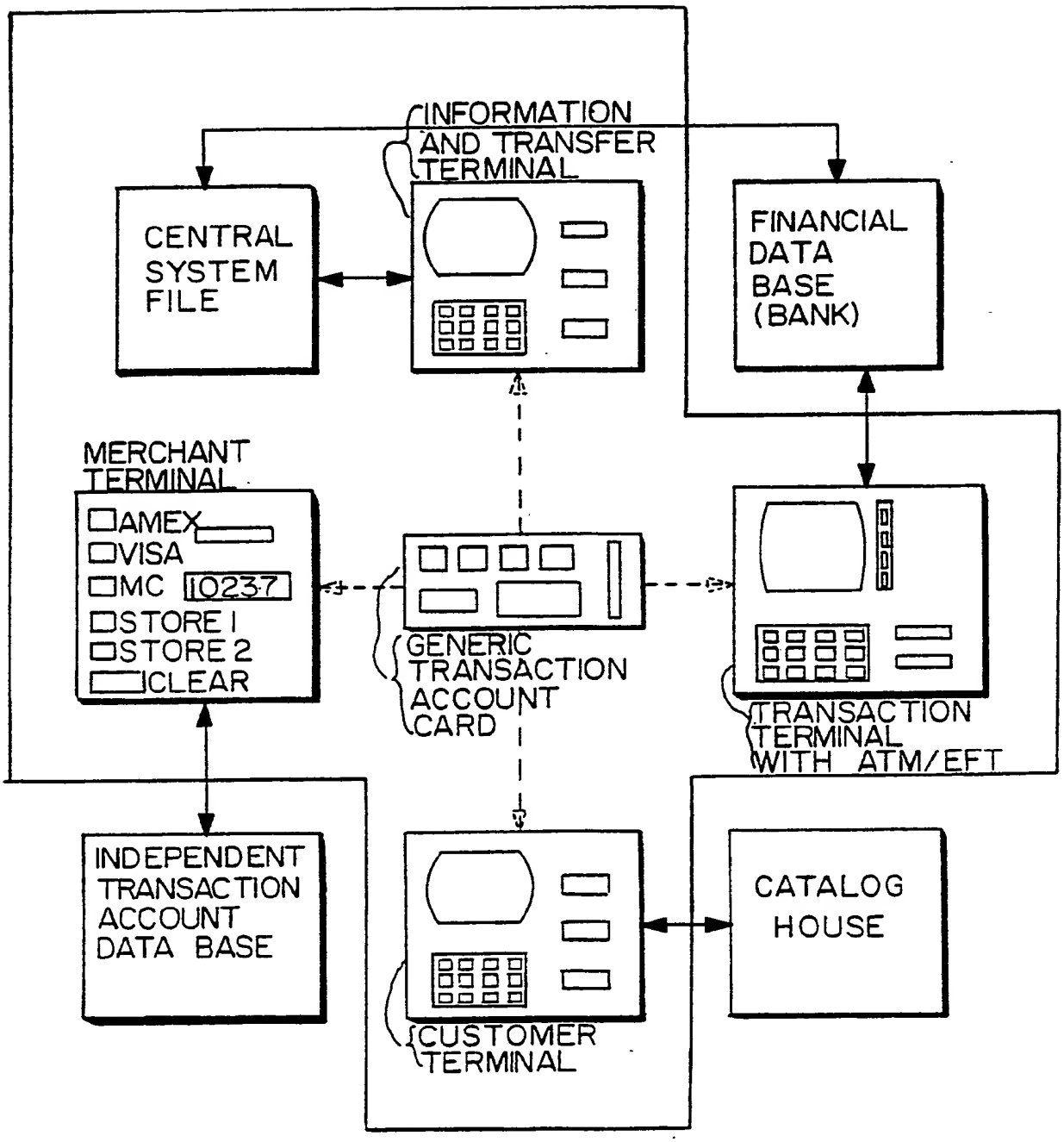
means for adding and deleting identity/operating codes to and from the logs of transaction accounts on the generic cards.

20. The system of claim 18, further comprising at least some of the system terminals in combination with an ATM/EFT terminal having means for transferring information between the ATM/EFT terminal and an independent financial data base.

21. The system of claim 18, further comprising at least some of the system terminals in combination with a sales register having means for communicating with at least one financial data base, whereby payment for purchases may be effected directly by use of the generic transaction account card.

22. The system of claim 18, further comprising at least some of the system terminals in combination with a sales terminal for catalog houses and the like, having means for communicating with at least one catalog house and the like and means for communicating with at least one financial data base, whereby purchases and payments for the purchases may be effected directly by use of the generic transaction account card.

23. The system of claim 18, further comprising at least some of the system terminals in combination with a sales register having means for communicating with at least one financial data base, whereby payment for purchases may be effected directly by use of the generic transaction account card.



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INTERNATIONAL SEARCH REPORT

International Application No. PCT/US89/01946

I. CLASSIFICATION OF SUBJECT MATTER (if several classification symbols apply, indicate all) [6]

According to International Patent Classification (IPC) or to both National Classification and IPC

IPC (4) : G06K 5/00, G06F 15/30

U.S.Cl. : 364/408, 235/379, 235/380

II. FIELDS SEARCHED

Minimum Documentation Searched [7]

Classification System	Classification Symbols
U.S.	364/408; 235/379; 235/380

Documentation Searched other than Minimum Documentation to the Extent that such Documents are Included in the Fields Searched [8]

III. DOCUMENTS CONSIDERED TO BE RELEVANT [9]

Category *	Citation of Document, [11] with indication, where appropriate, of the relevant passages [12]	Relevant to Claim No. [13]
X	US,A, 4,736,094 (YOSHIDA), 5 April 1988, see lines 5-19 of col. 1, lines 14-21 of col. 2, col. 3, lines 38-68 of col. 6, lines 40-57 of col. 7, lines 10-13 of col. 9, Figs. 3-6.	1-23
A	US,A, 4,689,478 (HALE et al.), 25 August 1987, see entire document.	
A	US,A, 4,722,054 (YOROZU), 26 January 1988, see entire document.	
A	US,A, 4,700,055 (KASHKASHIAN, Jr), 13 October 1987, see entire document.	
A,P	US,A, 4,795,898 (BERNSTEIN et al.), 3 January 1989, see entire document.	
Y,P	US,A, 4,804,825 (BITOH), 14 February 1989, see entire document.	18-23

* Special categories of cited documents: [10]

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

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"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

IV. CERTIFICATION

Date of the Actual Completion of the International Search

29 JUNE 1989

Date of Mailing of this International Search Report

18 JUL 1989

International Searching Authority

ISA/US

Signature of Authorized Officer

Kim Bui

Kim Bui

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